COMMISSION
AGENDA MEMORANDUM Item No. 10a
ACTION ITEM Date of Meeting January 10, 2023

DATE : December 27, 2022
TO: Stephen P. Metruck, Executive Director
FROM: Stephanie Jones Stebbins, Managing Director Maritime Division
Linda Springmann, Director of Cruise Operations and Maritime Marketing
Mark Longridge, Capital Project Manager, Waterfront Project Management
SUBJECT: Pier 66 Cruise Shore Power Construction Funding
Amount of this request: $29,145,000
Total estimated project cost: $38,000,000
ACTION REQUESTED
Request Commission authorization for the Executive Director to 1) Advertise, award, and execute a major works construction contract to complete the installation of the Pier 66 Shore Power Project, to utilize a Project Labor Agreement, 2) Enter into agreements in support of completion of this work, and 3) Extend design contracts and execute service directives to provide construction support. The total cost of this request is $29,145,000 and an estimated total project cost of $38,000,000.
EXECUTIVE SUMMARY
The Port is an industry and regional leader in economic development and sustainability. As Seattle's cruise industry continues to grow, the Port recognizes its responsibility and the importance of concerted efforts to balance economic growth with sustainability. The Seattle Waterfront Clean Energy Strategic Plan and the recently adopted Maritime Climate and Air Action Plan provide a Port investment strategy to protect the environment and improve community health. Through this approach the Port seeks to achieve its vision of being the greenest, most energy efficient port in North America and transition to zero-emission operations by 2050.
The provision of shore power for cruise ships, is the Port's greatest opportunity to reduce greenhouse gas (GHG) emissions and improve local air quality. Currently, the Port's Smith Cove Cruise Terminal at Terminal 91, which began operations in 2009, provides shore power at its two cruise vessel berths. The single berth facility at Pier 66's Bell Street Pier Cruise Terminal, which opened in 1999, does not have shore power for cruise vessels.
To enable future shore power connections by shore power capable cruise ships that call on Pier 66, the Port has been working closely with Seattle City Light (SCL), Northwest Seaport Alliance,

City of Seattle and other partners to plan and provide shore power to the Bell Street Pier Cruise Terminal. Shore power at Pier 66 will be accomplished through an innovative approach: installing a submarine cable from Terminal 46 to Pier 66 in lieu of bringing power through the congested City right-of-way. This approach significantly reduces project costs and avoids constructionrelated impacts to the waterfront.
The Port Commission authorized staff to proceed with the design and permitting phase of the project in December 2019 and to proceed on long lead material procurements in December 2021. Staff has since completed State Environmental Policy Act (SEPA) review, advanced the design, and submitted application packages for various environmental permits while engaging other important stakeholders such as the Suquamish and Muckleshoot Tribes, City of Seattle's Department of Construction and Inspection, SCL, Washington State Ferries, the Army Corps of Engineers, Department of Natural Resources (DNR), US and Washington State Fish and Wildlife, NOAA Fisheries, US Coast Guard, and the Puget Sound Pilots in the design development. Staff has also bid and negotiated submarine cable and shore power equipment purchases respectively, and these elements are now committed in production. This work is now approaching 100% design level and approaching ready to bid status.
Approval of this construction funding request will ensure adequate time for bidding, award and execution of a major works contract to complete the shore power installation in time for the 2024 cruise season.
JUSTIFICATION
The Bell Street Pier Cruise Terminal at Pier 66 is a single berth cruise facility in the heart of

downtown Seattle's waterfront. Pier 66 is the Port's first cruise terminal—opened in 1999—and is homeport to Norwegian Cruise Line (NCL) and its subsidiary Oceania Cruises. This terminal, along with the Smith Cove Cruise Terminal at T91 contributes significantly to the region's economy on an annual basis, generating more than 5,500 jobs and nearly $900 million in total local business revenue each cruise season.

In addition to its economic development mission, the Port is also a regional industry leader in sustainability and is committed to addressing global climate change and improving local air quality. In 2017 the Port's Commission adopted GHG reduction targets in alignment with the Paris Climate Agreement and has been planning and implementing projects and programs to achieve these critical air emission reductions. In October 2021, the Port updated its GHG reduction targets to be even more ambitious in recognition of the climate crisis. In November 2021, the Port Commission adopted the Maritime Climate and Air Action Plan which identifies strategies and actions the Port can take over the next 10 years to achieve the Port's Century Agenda GHG target to reduce emission 50% by 2030 and to position the Port to phase out emissions entirely by mid-century. By installing shore power at the Port's Bell Street Cruise Terminal at Pier 66 by 2024, the Port will meet the Northwest Ports Clean Air Strategy objective to provide shore power at all major cruise berths by 2030 six years early. The electricity needed to power ships berthed at Pier 66 is available from City Light without extensive infrastructure upgrades or transmission

changes. This project does require the Port to invest in the new connection from the south, but the unique solution of utilizing a submarine cable for power delivery, instead of trenching in the right of way, significantly reduces the overall cost.

The Port's two shore power connected cruise berths at T91 are already resulting in significant emission reductions. In 2022, 83% of shore power equipped homeport calls at Terminal 91 connected and avoided an estimated 2,100 tonnes of CO2.

On a basis of cost per tonne of carbon emissions avoided, assuming a 30-year infrastructure life and $38 million cost, staff estimates the cost (in 2022 dollars) of the cumulative carbon reduction by 2050 to range from $390 to $545 per tonne. This represents 50% to 100% of all calls to Pier 66 connecting to shore power and is in line with other emission reduction investments at the Port, like the Airport's Stage 3 Mechanical Upgrades, which was $300 per tonne.

To-date the Port has been awarded three grants for the Pier 66 Shore Power project: EPA's Diesel Emission Reduction Act (DERA) grant; VW Settlement grant through Washington State Department of Ecology; and Centralia Coal Transition (TransAlta) grants, totaling $2,920,000 (of which the $1,000,000 TransAlta grant has already been received). The Port has also received $2,000,000 of funding for this work from the Washington State Department of Commerce. Cost sharing strategies and discussions with the Port's leasehold partner, Norwegian Cruise Line Holdings, are continuing and will be further developed.

The Port continues to work with SCL to draft an agreement or agreements that would provide an overarching approach for cost-sharing and responsibilities in delivering the Pier 66 Shore Power Project, and for long-term operations and maintenance.

Diversity in Contracting

The project team is coordinating with the Diversity in Contracting Department to determine appropriate WMBE aspirational goals for this project.

DETAILS

Scope of Work

The major components of the P66 shore power project's work scope include the following:

(1) Pier 66 onsite shore power infrastructure/equipment/system inclusive of shore power cable management device.

(2) Approximately one mile of 29.4kV submarine cable and associated armoring.

(3) Environmental impact mitigation as required by agencies and Tribal Governments.

(4) Terminal 46 onsite shore power infrastructure, including power vaults, switches and conduit ductbanks.

(5) Offsite shore power related infrastructure and feeders by Seattle City Light.

(6) Design development, permitting, environmental review and construction support.

Schedule
Design and Permitting Authorization Q4 2019
Long lead item and City Light Service Agreement Q4 2021
commission funding authorization
Memorandum of Agreement with Seattle City Light Q1 2023
Construction funding authorization (this request) Q1 2023
Final Permits Issued Q1 2023
Major Works Contract Advertised, Awarded Q1 2023
Site Construction Starts Q3 2023
In-use date Q2 2024
Costs stated below reflect total project costs and do not account for any reimbursements from grants, Seattle City Light, Norwegian Cruise Lines or other project partners.

Cost Breakdown	This Request	Total Project
Design	$0	$1,225,000
Material Pre-Procurements	$0	$7,600,000
Construction (Incl. contingency, WSST, mitigation, etc.)	$29,145,000	$29,145,000
Total	$29,145,000	$38,000,000

ALTERNATIVES AND IMPLICATIONS CONSIDERED
Alternative 1 – Defer or cancel implementation of Shore Power at P66.
Cost Implications: While this approach would avoid the majority of capital costs going forward, significant penalties would need to be paid to cancel existing contracts for the advance materials, and the design costs to date would need to be expensed.
Pros:
(1) Lower capital costs.
Cons:
(1) The Port would not be able to provide shore power connections at Pier 66, and would not be able to meet the Port's Commission adopted GHG reduction targets.
(2) Significant penalties would need to be paid to cancel existing material contracts for the submarine cable and electrical equipment.
This is not the recommended alternative.

Template revised June 27, 2019 (Diversity in Contracting).

Alternative 2 – Abandon submarine cable approach and revisit landside power connection.
Cost Implications: While a detailed estimate of this alternative has not been maintained, abandoning the current effort and restarting the project would cost substantially more than the recommended alternative.
Pros:
(1) Reduced in water impact and associated mitigation.
Cons:
(1) This approach would abandon the current design effort to date, cost significantly more, jeopardize existing grant agreements, and delay the implementation of shore power at Pier 66 by at least 3 to 5 years.
(2) Significant work with the City of Seattle would be needed to thread this new utility ductbank along the recently reconstructed waterfront among all other existing utilities. It is not clear there is sufficient pathway to achieve this. The point of connection would also need to be reevaluated with Seattle City Light.
(3) Significantly higher capital costs.
This is not the recommended alternative.
Alternative 3 – Advertise and award a major works contract to implement the current design, proceed to activate the cruise shore power system as soon as possible.
Cost Implications: Commits the Port to a single major works contract to construct electrical infrastructure, install owner furnished submarine cable and electrical equipment.
Pros:
(1) Achieves greatest GHG reductions as soon as possible.
(2) Utilizes current design and procurement efforts to implement plan.
Cons:
(1) Costs are significantly higher than previously estimated.

(2) City and Federal permits are still under review. There is a very slight but non-zero risk that these may not be achieved, or may be delayed.
This is the recommended alternative.
FINANCIAL IMPLICATIONS
Current total project estimate has significantly increased from the prior amount of $17.0M due to historically high construction escalation (particularly on electrical equipment), required additional scope and ductbank sections due to the change in the point of connection, plus increased permitting mitigation costs. Cost increases were further aggravated due to the pandemic and resultant manufacturing and supply chain issues. The current estimate includes significant allowances for continued market volatility, escalation and construction contingency, but will be completed on a competitive low bid basis.

Template revised June 27, 2019 (Diversity in Contracting).

COMMISSION AGENDA – Action Item No. 10a Page 6 of 7
Meeting Date: January 10, 2023
The distribution of the capital and expense values below are estimated and will depend on the bid amounts and resultant costs to be shared with SCL. The expense amount shown is the anticipated Public Expense portion of the project to be reimbursed by SCL based on the latest estimate, however the actual reimbursement will be based on actual bid prices. Capital totals below also include anticipated ERL project funding to cover anticipated incremental costs for soil disposal on Terminal 46.
Cost Estimate/Authorization Summary Capital Expense Total
COST ESTIMATE
Original estimate $17,000,000 $0 $17,000,000
Current change $18,000,000 $3,000,000 $21,000,000
Revised estimate $35,000,000 $3,000,000 $38,000,000
AUTHORIZATION
Previous authorizations $8,855,000 $0 $8,855,000
Current request for authorization $26,145,000 $3,000,000 $29,145,000
Total authorizations, including this request $35,000,000 $3,000,000 $38,000,000
Remaining amount to be authorized $0 $0 $0
Annual Budget Status and Source of Funds
This project has been included in the approved 2023 Plan of Finance under C800120 P66 Shore Power with a total project cost of $32.5M.
The Port's cost share of the project is being funded by the Tax Levy. Approximately $3M of the project is funded with grants from U.S. EPA, WA Dept of Ecology, and TransAlta, plus an additional $2.0M from the Washington State Department of Commerce.
Ongoing discussions with the Port's leasehold partner, Norwegian Cruise Line Holdings, may result in additional non-Port funding for the project.
Financial Analysis and Summary
Project cost for analysis $38,000,000
Business Unit (BU) Cruise Operations
Effect on business •No incremental operating revenue or cost-savings is directly associated
performance (NOI after with this project.
depreciation) • On-going maintenance expenses, if any, are not yet known. Other ongoing costs may include recurring payments for a long-term easement granted by the DNR to SCL, rate to be determined.
• Estimated useful life of shore power infrastructure is 30 years, resulting in a depreciation expense of approximately $1.46M annually. NOI after depreciation will reduce by that respective amount.
IRR/NPV (if relevant) N/A

Template revised June 27, 2019 (Diversity in Contracting).

COMMISSION AGENDA – Action Item No. 10a Page 7 of 7
Meeting Date: January 10, 2023
ATTACHMENTS TO THIS REQUEST
(1) Presentation slides
PREVIOUS COMMISSION ACTIONS OR BRIEFINGS
December 4, 2019 – The Commission authorized design and permitting funding of $1,255,000
December 14, 2021 – The Commission authorized advance material procurement funding of $7,600,000

Template revised June 27, 2019 (Diversity in Contracting).